

INSTRUCTION MANUAL

MODEL 240

REGULATED HIGH VOLTAGE SUPPLY

WARRANTY

We warrant each of our products to be free from defects in material and workmanship. Our obligation under this warranty is to repair or replace any instrument or part thereof (except tubes and batteries) which, within a year after shipment, proves defective upon examination. We will pay domestic surface freight costs.

To exercise this warranty, call your local field representative or the factory, DDD 216-795-2666. You will be given assistance and shipping instructions.

REPAIRS AND RECALIBRATION

Keithley Instruments maintains a complete repair service and standards laboratory in Cleveland, and has an authorized field repair facility in Los Angeles.

To insure prompt repair or recalibration service, please contact your local field representative or the plant directly before returning the instrument.

Estimates for repairs, normal recalibrations, and calibrations traceable to the National Bureau of Standards are available upon request.

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SECTION I - INTRODUCTION

The Keithley Model 240 Regulated High Voltage Supply is a line operated source of dc potential. It provides constant, accurate output for safe and convenient testing of insulation, diode and capacitor leakage resistance, and it thus complements the Keithley line of electrometer equipment. The output can be set from zero to 1000 volts in increments of one volt.

The Model 240 may also be used as a general purpose laboratory voltage supply, furnishing excitation potentials to ion chambers and photocells, and supplying a buck-out potential for precise voltage measurements by the null method. It may be used as a stable dc potential in checking dc amplifier gains, calibrating meters, and in production testing. Used in conjunction with a Keithley electrometer, resistance over the range of 0.1 ohm to 10^{16} ohms can be measured.

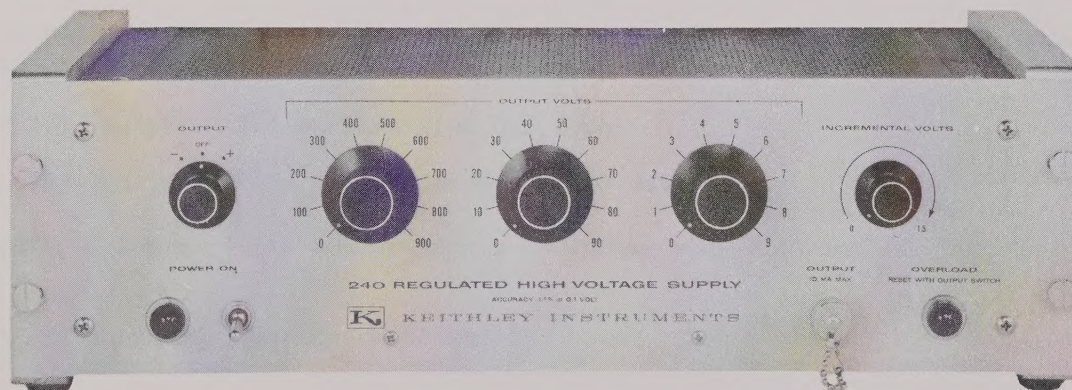


FIGURE 1. Keithley Model 240 Regulated High Voltage Supply equipped with end frames for bench use.

SECTION II - SPECIFICATIONS

OUTPUT:

Voltage: 0 to 1000 volts dc in 1-volt steps.

Current: 10 milliamperes dc maximum.

Polarity: Positive or negative with respect to chassis.

ACCURACY: $\pm 1\%$ of dial setting or ± 100 millivolts, whichever is greater.

RESOLUTION: A "Trim" Potentiometer permits interpolation between steps with a resolution better than 15 millivolts.

RESETABILITY AND STABILITY: $\pm 0.05\%$ or 0.05 volt the first hour or in subsequent 8-hour periods, after a 20-minute warm-up.

LINE REGULATION: $\pm 0.05\%$ or 0.05 volt for 10% change in line voltage.

LOAD REGULATION: $\pm 0.05\%$ from no load to full load.

RIPPLE: Less than 3 millivolts rms above 5 cps.

OUTPUT IMPEDANCE: Less than 15 ohms.

RECOVERY TIME: 50 milliseconds from no load to full load.

OVERLOAD PROTECTION: Output is disconnected within 50 milliseconds if current exceeds about 12 milliamperes.

CONNECTORS: Output: Teflon-insulated UHF type.

POWER: 105-125 or 210-250 volts, 50-60 cps, 70 watts.

DIMENSIONS, WEIGHT: 5-1/4 inches high x 19 inches wide x 10 inches deep; net weight, 22 pounds.

ACCESSORIES SUPPLIED: Mating connectors.

SECTION III - OPERATION

General - The Model 240 Regulated High-Voltage Supply is shipped complete with tubes and fuse, and is accurately calibrated at the factory. Plug the power cord into a source of proper voltage and frequency. Unless otherwise specified, the unit is wired for 110v, 50-60 cps. For 220-volt operation, change the jumpers on the transformer primary as indicated in the schematic diagram. Turn the POWER switch to ON. Allow two minutes for the circuit to stabilize after turning it on.

Connections - UHF type output connectors are on the front and rear of the instrument. Due to the high potential available from the output, use a mating connector and polyethelene or teflon insulated cable for maximum user protection. When making connections with the power on, it is recommended that the OUTPUT switch be set to OFF.

Polarity - The output polarity may be chosen by setting the OUTPUT switch to the appropriate position.

Output Voltage - The output voltage is set with the three main dials on the panel. For small adjustments in the output voltage to facilitate making a critical measurement, the INCREMENTAL VOLTS knob can be employed. For more accurate voltage setting than possible with the panel dials, connect an accurate voltmeter to the output connector and set the desired voltage with the main dials and the INCREMENTAL VOLTS potentiometer.

For the accuracy specification to hold, the INCREMENTAL VOLTS must be set to zero.

Overload Protection - Overload protection is provided at a current of about 12 milliamperes. If the current exceeds that amount, the output is disconnected within 50 milliseconds; the circuit can then be reset with the OUTPUT switch on the front panel. In this way, not only is the instrument protected, but in most cases the component being tested as well.

SECTION IV - CIRCUIT DESCRIPTION

Figure 2 shows the simplified circuit diagram, while 12282D enclosed at the back, gives the circuit details.

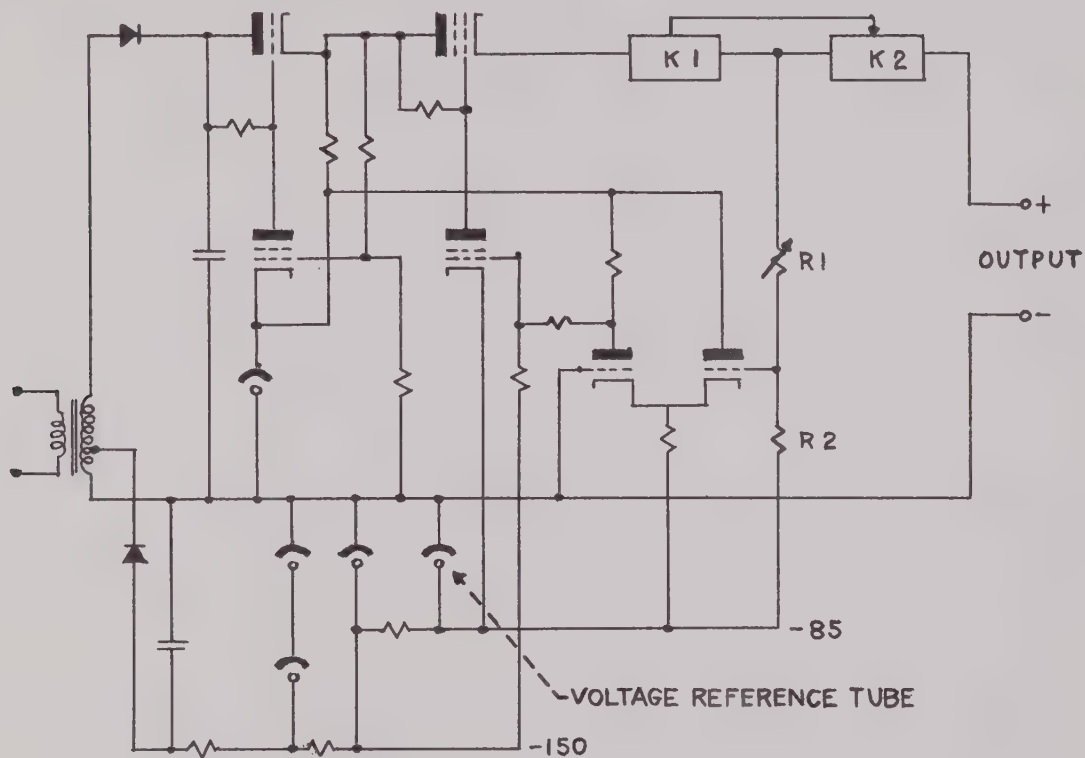


FIGURE 2

Refer to Figure 2. Two cascaded electronic series-regulators furnish a high degree of load and line regulation. The first regulator reduces the effect of input voltage change, while the second regulator provides the means for varying the output voltage and provides a low output impedance and very close regulation. Resistors R1 and R2 determine the output voltage by referencing it to a selected, aged premium VR tube. The current supply to the reference tube is doubly regulated. Relays K1 and K2 are overload protectors, disconnecting the output within 50 milliseconds.

Refer to 12282D. The high-voltage output of transformer T1 is rectified and supplied to the plate of V2, the series tube in the pre-regulator. V4 compares a fraction of the pre-regulated voltage from divider network R110 to R113 to the 150 volts of V6. This standard regulator supplies approximately 1300 volts to the final regulator.

The final regulator consists of series tube V3 and difference amplifier V5 and V11.

V11 compares the potential between the minus side of the supply and the mid-point of the divider formed by resistors R129 to R158, chosen by the voltage controls on the panel, and resistors R145 and R127, going to the minus 85v reference potential supplied by V10. Since the action of the negative-feedback circuit is to maintain pin 7 of V11 at ground, the output voltage must assume whatever value necessary to satisfy this condition. For example, since the resistance from the grid to the minus 85 volt reference (R148, R127) is set so that 100 microamperes must flow to have pin 7, V11 at ground potential, the side of the divider going from pin 7, V11 to the plus output, must also be of a value which will allow 100 microamperes to flow from B-plus to the negative reference since the tube grid draws negligible current. Therefore, if the current is fixed, the output voltage is a linear function of the resistance from B-plus to pin 7, V11. With the values used here, the output voltage changes by exactly 100 volts per megohm of resistance added by switches S3, S4, S5, and the INCREMENTAL VOLTS control. When the main dials are set at zero, there is no resistance between the cathode of V3 and the divider return to the input grid of V11. Thus, the output and feedback points are tied together and this is the condition for zero volts output. ZERO control R116 adjusts the common cathode current in V11 so that both grids may be set at zero volts. The CALIBRATE control, R127, is adjusted so that exactly .1 milliampere flowing through R148 and R127 produces a voltage drop equal to the negative return voltage from V10.

Overload protection is provided by relays K1 and K2. The current sensing relay, K2, energizes relay K1 when the output current rises to about 12 milliamperes. K1 disconnects the output terminal from the voltage supply, holds itself closed through the first section of S2, and lights the red overload light. Switching the OUTPUT switch, S2, to OFF opens the self-locking loop of K1.

SECTION V - MAINTENANCE

BE EXTREMELY CAREFUL that the Regulated Voltage Supply is disconnected from the power line when unscrewing the top or bottom covers. Many circuit components are 1000 volts above ground, and if the output polarity is negative, the negative side of the circuit is 1000 volts below ground. Therefore, do not assume that it is safe to touch any part of the circuit when the power is on.

Tube Replacement

With the exception of V10 (0G3) and V11 (12AX7), all tubes can be replaced with jobber stock tubes. A replacement for V10 (0G3) should be aged for 300 hours. A replacement for V11 should be selected for low drift, hum and noise. Amperex ECC 83-12AX7 is recommended. Both tubes, aged and selected, are available from Keithley Instruments with stock numbers EV 0G3-240 (V10) and EV 12AX7-240 (V11).

Recalibration

The zero setting can be readjusted with potentiometer R116, mounted on the channel just behind the front panel. Set the OUTPUT VOLTS switches and the INCREMENTAL VOLTS potentiometer to zero. Connect a voltmeter to the output terminals and adjust R116 until the output reads zero.

The voltage calibration can be set with potentiometer R127. Connect an accurate voltmeter to the output terminal. Set the OUTPUT VOLTS switches to the highest voltage which may be read by the voltmeter and adjust R127 until the voltmeter reads the dial setting.

The settings will be no more accurate than the standardizing meter; and it is well to let the instrument warm up for about an hour before recalibrating. Recalibration will be necessary only after replacement of V10 or V11.

SECTION 6. REPLACEABLE PARTS

6-1. REPLACEABLE PARTS LIST. The Replaceable Parts List describes the components of the Model 240. The List gives the circuit designation, the part description, a suggested manufacturer, the manufacturer's part number and the Keithley Part Number. The last column, "Loc.", lists the part's location. The name and address of the manufacturers listed in the "Mfg. Code" column are contained in Table 2.

6-2. HOW TO ORDER PARTS.

a. For parts orders, include the instrument's model and serial number, the Keithley Part Number, the circuit designation and a description of the part. All structural parts and those parts coded for Keithley manufacture (80164) must be ordered from Keithley Instruments, Inc. In ordering a part not listed in the Replaceable Parts List, completely describe the part, its function and its location.

b. Order parts through your nearest Keithley distributor or the Sales Service Department, Keithley Instruments, Inc.

amp	ampere	Ω	ohm
C	Chassis	OS	OUTPUT Switch
CbVar	Carbon Variable		
CerD	Ceramic, Disc	p	pico (10^{-12})
Comp	Composition	PC	Printed Circuit PC24A
DCb	Deposited Carbon	Ref.	Reference
ETB	Electrolytic, tubular	RP	Rear Panel
f	farad	μ	micro (10^{-6})
FP	Front Panel	v	volt
Fig.	Figure	Var	Variable
k	kilo (10^3)	w	watt
M or meg	mega (10^6) or megohms	WW	Wirewound
m	milli (10^{-3})	WWVar	Wirewound Variable
Mfg.	Manufacturer	X1S	X1 Output Volts Switch
Mil. No.	Military Type Number	X10S	X10 Output Volts Switch
My	Mylar	X100S	X100 Output Volts Switch

TABLE 1. Abbreviations and Symbols.

MODEL 240 REPLACEABLE PARTS LIST

(Refer to Schematic Diagram 12282D for circuit designations.)

CAPACITORS

Circuit Desig.	Value	Rating	Type	Mfg. Code	Mfg. Part No.	Keithley Part No.	Loc.
C101	20 μ f	600 v	ETB	00656	PRS	C35-20M	PC
C102	2 μ f	3000 v	My	99120	LK30-205	C53-2M	C
C103	20 μ f	450 v	ETB	56289	TVA1709	C8-20M	PC
C104	.02 μ f	1000 v	CerD	72982	841Z5V203P	C22-.02M	PC
C105	.02 μ f	1000 v	CerD	72982	841Z5V203P	C22-.02M	PC
C106	.02 μ f	1000 v	CerD	72982	841Z5V203P	C22-.02M	PC
C107	.01 μ f	1000 v	CerD	72982	811Z5V103P	C22-.01M	PC
C108	.02 μ f	1000 v	CerD	72982	841Z5V203P	C22-.02M	PC
C109	.01 μ f	1000 v	CerD	72982	811Z5V103P	C22-.01M	PC
C110	.22 μ f	1000 v	My	99120	LT15-47	C54-.22M	PC
C111	.02 μ f	1000 v	CerD	72982	841Z5V203P	C22-.02M	PC
C112	.033 μ f	1600 v	MP	14655	MGT-S33	C43-.033M	PC
C113	Not Used						
C114	Not Used						
C115	.033 μ f	1600 v	MP	14655	MGT-S33	C43-0.033M	PC
C116	470 pf	1000 v	CerD	72982	831Z5V471P	C22-470P	PC
C166	470 pf	1000 v	CerD	72982	831Z5V471P	C22-470P	PC

DIODES

Circuit Desig.	Type	Number	Mfg. Code	Keithley Part No.	Loc.
D101	Selenium	PT065	81483	RF-18	PC
D102	Selenium	PT065	81483	RF-18	PC
D103	Selenium	PT065	81483	RF-18	PC
D104	Selenium	PT065	81483	RF-18	PC
D105	Selenium	PT065	81483	RF-18	PC
D106	Selenium	PT065	81483	RF-18	PC
D107	Selenium	PT065	81483	RF-18	PC
D108	Selenium	PT065	81483	RF-18	PC
D109	Selenium	PT065	81483	RF-18	PC
D110	Selenium	PT065	81483	RF-18	PC
D111	Selenium	PT065	81483	RF-18	PC
D112	Selenium	PT065	81483	RF-18	PC
D113	Selenium	PT065	81483	RF-18	PC
D114	Selenium	PT065	81483	RF-18	PC
D115	Silicon	1N3256	02735	RF-22	PC
D116	Not Used				
D117	Silicon	1N3256	02735	RF-22	PC

MISCELLANEOUS PARTS

Circuit Desig.	Description	Mfg. Code	Keithley Part No.	Loc.
DS1	Bulb, Lamp, POWER ON (Mfg. No. 47)	08804	PL-4	FP
---	Pilot Light Assembly (Mfg. No. 81410-233)	72619	PL-5	
---	Pilot Light Lens (Mfg. No. 233)	72619	PL-5G	
DS2	Bulb, Lamp, OVERLOAD (Mfg. No. 47)	08804	PL-4	FP
---	Pilot Light Assembly (Mfg. No. 81410-231)	72619	PL-5	
---	Pilot Light Lens (Mfg. No. 231)	72619	PL-5R	
F1 (110v)	Fuse, slow blow, 1 amp (Mfg. Type MDL)	71400	FU-10	
F1 (220v)	Fuse, slow blow, 0.5 amp (Mfg. Type MDL)	71400	FU-4	
---	Fuse Holder (Mfg. No. 342012)	75915	FH-3	RP
J1	Receptacle, uhf, OUTPUT, Mil. No. SO-239A (Mfg. No. 6804)	91737	CS-64	FP
---	Dust Cap for J1, Mil. No. MX-913/U (Mfg. No. 7901)	91737	CAP-4	FP
---	(F) Plug, uhf, Mate of J1, Mil. No. 49190 (Mfg. No. 83-822)	02660	CS-49	
---	(F) Reducing Adapter, uhf, Mil. No. UG-175/U (Mfg. No. 83-185)	02660	CS-36	
K1	Relay	80164	RL-6	PC
K2	Relay	80164	RL-5	PC
P1	Cord Set, 6 feet (Mfg. No. 4638-13)	93656	CO-5	RP
---	Cable Clamp (Mfg. No. SR-5P-1)	28520	CC-4	
S1	Toggle Switch, SPST, POWER ON (Mfg. No. 20994LH)	04009	SW-4	FP
S2	Rotary Switch less components, OUTPUT	80164	SW-27	FP
---	Knob, Output Switch	80164	14838A	FP
S3	Rotary Switch less components, OUTPUT VOLTS X100	80164	SW-28	FP
---	Rotary Switch with components, OUTPUT VOLTS X100	80164	12565A	
---	Knob, X100 Volts	80164	16338A	FP
S4	Rotary Switch less components, OUTPUT VOLTS X10	80164	SW-28	FP
---	Rotary Switch with components, OUTPUT VOLTS X10	80164	12564A	
---	Knob, X10 Volts	80164	16338A	FP
S5	Rotary Switch less components, OUTPUT VOLTS X1	80164	SW-28	FP
---	Rotary Switch with components, OUTPUT VOLTS X1	80164	12563A	
---	Knob, X1 Volts	80164	16338A	FP
---	Knob, INCREMENTAL VOLTS Control	80164	14838A	FP
T1	Transformer	80164	TR-29	C

(F) Furnished Accessory

RESISTORS

Circuit Desig.	Value	Rating	Type	Mfg. Code	Mfg. Part No.	Keithley Part No.	Loc.
R101	1 k Ω	10%, 1 w	Comp	01121	GB	R2-1K	PC
R102	5 k Ω	3%, 25 w	WW	91637	RH-25	R45-5K	PC
R103	470 k Ω	10%, 1 w	Comp	01121	GB	R2-470K	PC
R104	8.2 k Ω	10%, 2 w	Comp	01121	HB	R3-8.2K	PC
R105	5 k Ω	1%, 5 w	WW	91637	RS-5	R4A-5K	PC
R106	80 k Ω	1%, 10 w	WW	91637	RS-10	R30A-80K	PC
R107	80 k Ω	1%, 10 w	WW	91637	RS-10	R30A-80K	PC
R108	8.2 k Ω	10%, 2 w	Comp	01121	HB	R3-8.2K	PC
R109	10 k Ω	1%, 5 w	WW	44655	4654	R4A-10K	PC
R110	333 k Ω	1%, 1 w	DCb	91637	DC-1	R13-333K	PC
R111	333 k Ω	1%, 1 w	DCb	91637	DC-1	R13-333K	PC
R112	333 k Ω	1%, 1 w	DCb	91637	DC-1	R13-333K	PC
R113	120 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-120K	PC
R114	312 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-312K	PC
R115	100 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-100K	PC
R116	100 k Ω	10%, 3 w	CbVar	97979	RA10411S	RP15-100K	RP
R117	180 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-180K	PC
R118	5 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-5K	PC
R119	Not Used						
R120	Not Used						
R121	5 M Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-5M	PC
R122	1.667 M Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-1.667M	PC
R123	700 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-700K	PC
R124	Not Used						
R125	33.3 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-120K	PC
R126	Not Used						
R127	70 k Ω	10%, 4 w	WWVar	37942	M70MPK	RP1-70K	PC
R128	220 k Ω	10%, 1 w	Comp	01121	GB	R2-220K	OS
R129	1 M Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-1M	X100S
R130	1 M Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-1M	X100S
R131	1 M Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-1M	X100S
R132	1 M Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-1M	X100S
R133	1 M Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-1M	X100S
R134	1 M Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-1M	X100S
R135	1 M Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-1M	X100S
R136	1 M Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-1M	X100S
R137	1 M Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-1M	X100S
R138	600 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-600K	PC
R139	100 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-100K	X10S
R140	100 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-100K	X10S

RESISTORS (Cont'd)

Circuit Desig.	Value	Rating	Type	Mfg. Code	Mfg. Part No.	Keithley Part No.	Loc.
R141	100 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-100K	X10S
R142	100 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-100K	X10S
R143	100 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-100K	X10S
R144	100 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-100K	X10S
R145	100 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-100K	X10S
R146	100 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-100K	X10S
R147	100 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-100K	X10S
R148	*800 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-800K	PC
R149	10 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-800K	X1S
R150	10 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-800K	X1S
R151	10 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-800K	X1S
R152	10 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-800K	X1S
R153	10 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-800K	X1S
R154	10 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-800K	X1S
R155	10 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-800K	X1S
R156	10 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-800K	X1S
R157	10 k Ω	1%, 1/2 w	DCb	79727	CFE-15	R12-800K	X1S
R158	15 k Ω	5%, 2 w	WWVar	12697	43C2-15K	RP19-15K	FP
R159	1 k Ω	10%, 1/2 w	Comp	01121	EB	R1-1K	PC
R160	*3 Ω	1%, 5 w	WW	91637	RS-5	R4A-3	C
R161	100 k Ω	1%, 5 w	WW	91637	RS-5	R4A-100	PC
R162	500 k Ω	1%, 5 w	WW	91637	RS-5	R4A-500	PC

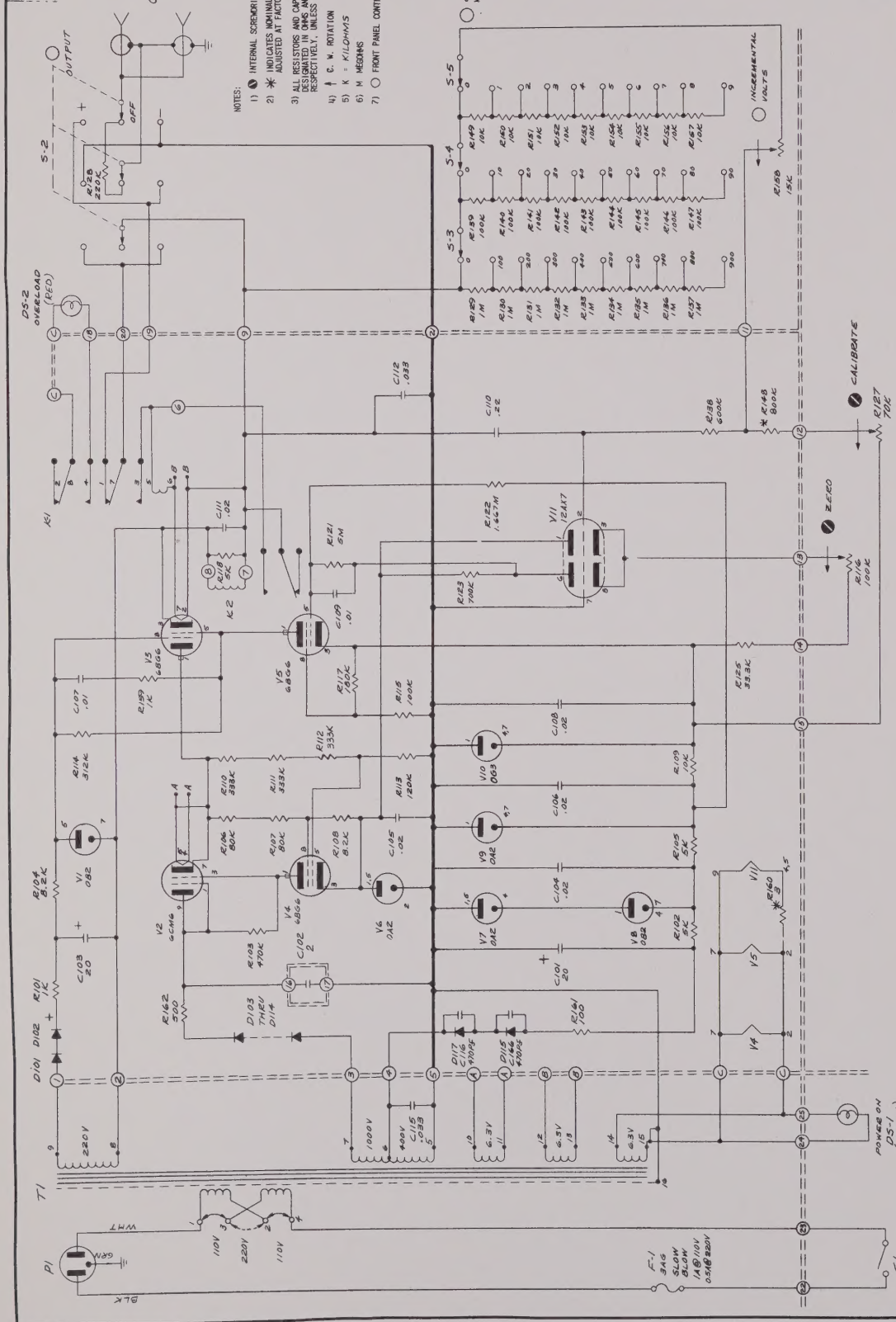
VACUUM TUBES

Circuit Desig.	Number	Mfg. Code	Keithley Part No.	Loc.
V1	0B2	02735	EV-0B2	PC
V2	6CM6	00011	EV-6CM6	PC
V3	6BG6	85599	EV-6BG6GA	C
V4	6BG6	85599	EV-6BG6GA	C
V5	6BG6	85599	EV-6BG6GA	C
V6	0A2	02735	EV-0A2	PC
V7	0A2	02735	EV-0A2	PC
V8	0B2	02735	EV-0B2	PC
V9	0A2	02735	EV-0A2	PC
V10	0G3	80164	EV-0G3-240	PC
V11	12AX7	80164	EV-12AX7-240	PC

* Nominal value, factory set.

00011	Sylvania Electric Products, Inc. Buffalo Operations of Sylvania Electronic Systems Buffalo, N. Y.	71400	Bussmann Mfg. Div. of McGraw-Edison Co. St. Louis, Mo.
00656	Aerovox Corp. New Bedford, Mass.	72619	Dialight Corp. Brooklyn, N. Y.
01121	Allen-Bradley Corp. Milwaukee, Wis.	72982	Erie Technological Products, Inc. Erie, Pa.
02660	Amphenol-Borg Electronics Corp. Broadview, Chicago, Illinois	75915	Littelfuse, Inc. Des Plaines, Ill.
02735	Radio Corp. of America Commercial Receiving Tube and Semiconductor Division Somerville, N. J.	79727	Continental-Wirt Electronics Corp. Philadelphia, Pa.
04009	Arrow-Hart and Hegeman Electric Co. Hartford, Conn.	80164	Keithley Instruments, Inc. Cleveland, Ohio
08804	Lamp Metals and Components Department G. E. Co. Cleveland, Ohio	81483	International Rectifier Corp. El Segundo, Calif.
12697	Clarostat Mfg. Co., Inc. Dover, N. H.	85599	Tube Department G. E. Co. Schenectady, N. Y.
14655	Cornell-Dubilier Electric Corp. Newark, N. J.	91637	Dale Electronics, Inc. Columbus, Nebr.
28520	Heyman Mfg. Co. Kenilworth, N. J.	91737	Gremar Mfg. Co., Inc. Wakefield, Mass.
37942	Mallory, P. R., and Co., Inc. Indianapolis, Ind.	93656	Electric Cord Co. Caldwell, N. J.
44655	Ohmite Mfg. Co. Skokie, Ill.	97979	Reon Resistor Corp. Yonkers, N. Y.
56289	Sprague Electric Co. North Adams, Mass.	99120	Plastic Capacitors, Inc. Chicago, Ill.

TABLE 2. Code List of Suggested Manufacturers. (Based on Federal Supply Code for Manufacturers, Cataloging Handbook H4-1.)



- NOTES:
 1) INTERNAL SCHEMATIC ADJ.
 2) * INDICATES INITIAL VALUE ADJUSTED AT FACTORY.
 3) ALL RESISTORS AND CAPACITORS ARE DESIGNATED IN OHMS AND MICROFARADS RESPECTIVELY, UNLESS OTHERWISE NOTED.
 4) † C. W. ROTATION
 5) K = KILOHMS
 6) M = MEGHMS
 7) ○ FRONT PANEL CONTROL

KEITHLEY 240 REGULATED VOLTAGE SUPPLY CLEVELAND OHIO	
DATE: 1/1/71 DRAWN: J. J. J. CHECKED: J. J. J. APPROVED: J. J. J.	122 82 D

KEITHLEY 240 REGULATED VOLTAGE SUPPLY CLEVELAND OHIO	
DATE: 1/1/71 DRAWN: J. J. J. CHECKED: J. J. J. APPROVED: J. J. J.	122 82 D



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